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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,248	06/29/2001	Carl A. Caroli	2-54-9	9196

7590 05/10/2004

Docket Administrator (Room 3J-219)  
Lucent Technologies Inc.  
101 Crawfords Corner Road  
Holmdel, NJ 07733

EXAMINER

NGUYEN, CHAU M

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/896,248

Applicant(s)

CAROLI ET AL.

Examiner

Chau M Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 2,3.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 9, 12-15 and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar (U.S. Pat. No. 5,778,118) in view of Park et al. (U.S. Pub. No. 2002/0067526 A1).

As claims 1 and 13, Sridhar discloses an add/drop node and method capable of adding or dropping at least one optical channel of a wavelength division multiplexed (WDM) signal, the add/drop node (fig. 1) comprising:

an optical coupler (20) for receiving and coupling a WDM input signal to both a drop transmission path and a through transmission path within the add/drop node (col. 4, lines 10-21);

an apparatus (62) coupled to the drop transmission path (60) for optically separating the WDM input signal into a plurality of optical channels, wherein one or more of the plurality of optical channels are selectively dropped from the WDM input signal (col. 5, line 64 - col. 6, line 2);

a first wavelength blocking element (40) coupled to the through transmission path (50) for selectively blocking the one or more optical channels being selectively dropped

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from the WDM input signal so that only optical channels not being dropped at the add/drop node are passed on the through transmission path (col. 5, lines 2-5);

in an add transmission path (83) within the add/drop node,

an apparatus(82) for combining a plurality of optical channels to form a WDM add signal, the plurality of optical channels in the WDM add signal having wavelengths corresponding to the wavelengths of the optical channels in the WDM input signal, wherein one or more of the plurality of optical channels in the WDM add signal are to be added at the add/drop node, and

a combiner (30) coupled to each of the add and through transmission paths for combining the one or more optical channels from the add transmission path with the optical channels in the through transmission path to generate a WDM output signal for transmission from the add/drop node (col. 4, lines 20-24).

Sridhar does not clearly show a second wavelength blocking element for selectively blocking the optical channels not being added so that only optical channels being added at the add/drop node are passed along in the add transmission path.

However, Park (fig. 2) shows a add filter (271) for selectively blocking the optical channels not being added so that only optical channels being added at the add/drop node are passed along in the add transmission path (Park, col. 2, paragraph 0021, lines 12-16).

Therefore, it would have been obvious to one having ordinary skill in the optical add/drop art to employ a filter for selectively blocking the optical channels as taught by Park into the optical system of Sridhar in order to selectively block the designed optical

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channels. One would have motivated for doing this since the add filter eliminates the optical noise (Park, paragraph 0023).

As claims 2 and 14, Park discloses both (drop) filter (231) for selectively blocking the one or more optical channels being dropped and (add) filter (271) selectively blocking the optical channels not being added are dynamically configurable as a function of changing add/drop requirements (paragraph 0037, lines 8-12 and paragraph 0040, lines 9-13).

As claim 3 and 15, Sridhar teaches the equalizing gain in through and add paths (Sridhar, col. 4, lines 31-35).

As claim 9, Sridhar discloses a demultiplexer (62, fig. 1) for demultiplexing the WDM input signal in the drop transmission path into a plurality of individual optical channels.

As claims 12, Sridhar (see fig. 1) discloses the WDM input signal comprises a plurality of optical channels of different wavelengths and wherein each optical channel in the WDM input signal is capable of being dropped and wherein each of the optical channels can be added to the output WDM signal.

As claims 19 and 21, Sridhar discloses a method for adding/dropping at least one optical channel of a wavelength division multiplexed (WDM) signal at an add/drop node,

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the add/drop node (fig. 1) including a first transmission path (60) for dropping selected optical channels from the WDM signal, a second transmission path (50) for routing selected optical channels through the add/drop node, and a third transmission path (83) for adding selected optical channels to the WDM signal, the WDM signal having a plurality of optical channels of different wavelengths, the method comprising:

- receiving a WDM input signal at the add/drop node (col. 4, lines 10-21);

- distributing the WDM input signal to the first and second transmission paths (col. 4, lines 22-25);

- dropping one or more optical channels from the WDM input signal in the first transmission path (through 62 and 63A);

- adding one or more optical channels to the WDM input signal in the third transmission path (through 81A and 82);

- selectively routing optical channels in each of the second and third transmission paths to provide a reconfigurable add/drop capability by

- selectively blocking wavelengths (using tunable filter 40) (col. 5, lines 33-35) in the pass-through (second) transmission path that correspond to optical channels being dropped from the WDM input signal in the drop (first) transmission path (as cited in the claimed invention 19) and in the add (third) transmission path (as cited in the claimed invention 21), and

- combining the optical channels (through 30) from the second and third transmission paths to generate a WDM output signal for transmission from the add/drop node.

Sridhar does not selectively passing wavelengths in the add (third) transmission path that correspond to optical channels being added at the add/drop node (as claimed in claim invention 19 and 21). However, Park (fig. 2) shows a add filter (271) for selectively blocking the optical channels not being added so that only optical channels being added at the add/drop node are passed along in the add (third) transmission path (Park, col. 2, paragraph 0021, lines 12-16).

Therefore, it would have been obvious to one having ordinary skill in the optical add/drop art to employ a filter for selectively blocking the optical channels as taught by Park into the optical system of Sridhar in order to selectively block the designed optical channels. One would have motivated for doing this since the add filter eliminates the optical noise (Park, paragraph 0023).

As claims 20 and 22, Sridhar discloses selective blocking and passing are dynamically configurable (col. 9, lines 53-55).

3. Claims 4-8, 10, 11 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sridhar in view of Park as applied in the claims 1 and 13, and in further view of Thomas et al. (Hereinafter "Thomas") (U.S. Pat. No. 6,429,974 B1).

As claims 4 and 16, the combination system of Sridhar and Park fails to show an interleaver for separating the WDM input signal into at least first and second group of optical signals so that optical channels in each of the first and second groups are spaced apart by at least one wavelength within their respective groups.

However, Thomas shows an add/drop system with the use of an interleaver (11, fig. 6) for separating the WDM input signal into at least first and second group of optical signals so that optical channels in each of the first and second groups are spaced apart by at least one wavelength within their respective groups (detailed in fig. 10).

Therefore, it would have been obvious to one having ordinary skill in the art to use an interleaver as taught by Thomas into the system of Sridhar and Park in order to separate the WDM input signal. One having ordinary skill in the art would have motivated for using interleaver since it supports the wide-band OADM system.

As claims 5 and 6, Thomas (fig. 10) shows optical channels in each of the first and second groups are spaced apart by at least one wavelength, and first group includes optical channels having an odd channel number and wherein the second group includes optical channels having an even channel.

As claims 7, 8 and 17, Thomas shows an express routing path (1314) within the add/drop node such that the optical channels in the first group cannot be dropped at the add/drop node (Thomas, col. 6, lines 52-54), and (fig. 12) shows the express routing path with the optical channels combined from the add and through paths.

As claims 10, 11 and 18, Thomas (fig. 14) shows interleavers for separating the WDM input signal in the drop transmission path into at least two groups of optical channels according to a prescribed pattern so that channel spacing between the optical channels is increased prior to optically demultiplexing the WDM input signal, and de-



interleaving so that optical channels in each of the respective groups are spaced apart by one wavelength (Thomas, col. 6, line 66 – col. 7, line 8).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mizrahi (U.S. Pat. No. 5,982,518) is cited to show optical add-drop multiplexers compatible with very dense WDM optical communication system.

Mizrahi (U.S. Pat. No. 6,185,023B1) is cited to show optical add-drop multiplexers compatible with very dense WDM optical communication system.

Tanaka et al. (U.S. Pat. No. 6,512,613 B1) is cited to show WDM transmission repeater, WDM transmission system and method.

Doerr (U.S. Pat. No. 5,604,970 B2) is cited to show planar lightwave wavelength blocker.

Liu et al. (U.S. Pat. No. 6,208,443 B1) is cited to show dynamic optical add-drop multiplexers and wavelength routing-networks.

Liu et al. (U.S. Pat. No. 5,953,141) is cited to show dynamic optical add-drop multiplexers and wavelength routing-networks.

Nitta et al. (U.S. Pat. No. 6,144,474) is cited to show optical transmission system including optical repeaters with selectively enabled gain equalizers.

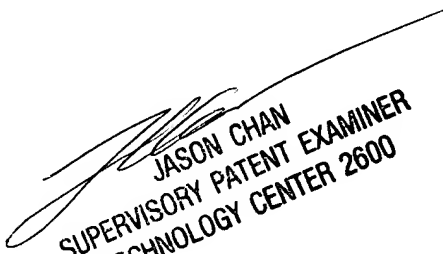
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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chau M. Nguyen whose telephone number is 703-305-8965. The examiner can normally be reached on Mon-Fri from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 703-305-4726. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

C.M.N.  
Apr. 27, 2004

  
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